Aim. The HemorPex System (HPS) is a new technique for hemorrhoid treatment consisting of the repositioning of hemorrhoidal cushions by means of sutures determining a lifting of anorectal mucosa, and the ligation of the branches of the superior hemorrhoidal artery. This procedure is performed on outpatients using a rotating dedicated anoscope (HPS). The aim of this study was to present the results and follow-up of more than 1,000 patients operated with this technique during three years (2003-2006).

Methods. The parameters analyzed were: postoperative pain, incidence of complications, recurrence of affections or symptoms, satisfaction degree. In 92% of cases the intervention was performed under local anesthesia and 96.5% of patients was discharged within six hours, only 3% of patients overnight.

Results. The immediate postoperative pain was absent in 5.3% of cases, light in 59.9%, medium with tenesmus in 30.3%, intense in 4.5%. Modest hemorrhages were reported in postoperative between 5 and 15 days and 2% of patients had more important hemorrhage, not requiring surgery. In 6.4% of patients a real recurrence was present.

Conclusion. According to authors, HPS is a safe procedure, with a short learning curve for surgeons, able to reduce postoperative pain, applicable with local anesthesia, under ambulatory surgery, rapid, low cost, lacking of major complications, with rapid integration into working life.

KEY WORDS: Hemorrhoids - Hemorrhoids, therapy - Postoperative complications.
All the patients have been provided with some anesthetic cream (Emla) applied in the anal region two hours before the operation.

The operations have been performed in 92% of cases under sphincter local anesthesia (carbocaine 2% 15cc) and in 7% of cases no anesthesia has been used. Only 9 patients asked for general anesthesia (4 cases) or spinal anesthesia (5 cases).

Midazolam has been administered to all the patients in variable quantity from 5 to 10 mg i.v. The patients have been operated prevalently in prone position (Jack-Knife) or left lateral (Sims); only in very few cases the patients have been treated with general anesthesia or under explicit request of the patient, patients have been operated in gynecological position.

The effective average duration of the surgical operation was about 20 minutes (range 15-25).

The outpatient checks and follow-ups were fixed at 7-30-60 days and at one year from surgery to check any inconvenience, complication and recurrence.

In a total of 1112 patients, 719 (N) have been checked for follow-up.

After the procedure, the patients were asked to describe the entity of pain with a Visual Analogue Scale (VAS) from 0 (absence of pain) to 10 (very painful).

A single use device made by a fixed part has been used for the operation, by a rotating operative part which includes a window through which the suture stitches are posed, named HPS.

The proposed procedure consisted in repositioning of the hemorrhoidal cushions in their anatomical place by means of anorectal sutures determining a plication of the mucosa over the combed line and, in the long term, the formation of a scar anchoring the mucosa to the underlying musculature. These sutures are represented by Z stitches (single or multiple): they are posed at the level of the hemorrhoidal pedicles (right anterior, right posterior and left lateral) and in the intermediate positions, in order to obtain a major support and to close the branches of the superior haemorrhoidal artery like in the Hal-Doppler technique.

The suture stitches were 6 Z stitches corresponding to the hours 1-3-5-7-9-11 proximal to the combed line, modulating the distance between the passages of the needle on the basis of the prolapse entity. Suture needle 21mm half-circle with slow absorbable suture (Vycril 2/0 or 3/0) or non-absorbable suture (Polypropylene 2/0 or 3/0).

**Results**

All the operations were performed with the described procedure; 96.5% patients (694) were discharged within 6 hours from the operation (Day Surgery); 3.5% (14) were treated with One Day Surgery, and no patient was sent to ordinary hospitalization.

All cases were treated with intravenous antibiotic therapy and in the majority of the patients a home therapy with metronidazole has been prescribed. At the time of discharge non stufacient analgesics by oral way was prescribed.

The first defecation after the operation came spontaneously about 24 hours later (82% of cases). The remaining patients were treated with saline purgatives on the III postoperative day. The resumption of the working activity was 3 days after the surgery (range 1-7 days).

In all the cases, independently from the administration of pain-killers, was reached a suitable level of analgesia registering a VAS average of 3 with a good compliance from the patients (average general pleasure of 3.5). Immediate postoperative hemorrhages were never recorded. In 32 patients an acute retention of urine occurred (4.5%); 139 cases (19.3%) complained a discreet or notable anal or perianal edema. The postoperative immediate pain was intense in 32 cases (4.5%) (VAS 7-10); medium with tenesmus in 218 cases (30.3%); light (VAS 1-3) in 431 cases (59.9%); absent (VAS 0) in 38 cases (5.3%).

The long term results were the followings: in the ambulatory check-up after 30 days the major part of the patients (64%) reported modest rectal haemorrhage between the V and the XV day. We have recorded persistence of tenesmus in 114 cases (15.9%); 3 cases of pararectal fistula (0.4%); 218 cases of feeling of endorectal puncture (30.3%); 26 cases of perianal bruising (9.5%); 6 cases of pararectal abscess (0.8%).

During the third ambulatory check-up (60 days later) we have recorded 3 cases of perianal fistula (0.4%); 2 pseudopolyps (0.3%); 3 cases of hemat spermy (0.4%); 2 cases of fecal incontinence (0.2%), resolved in less then three months; 13 cases of gas incontinence (1.8%) resolved in less then three months; in 46 cases a real recurrence was present (6.4%) and in 158 patients it has been noticed a persistance of skin tags (22.0%).

**Conclusions**

The results of our experience show that the surgical treatment of haemorrhoidal pathology with the HPS, in presence of prolapse of various degree, can be easily performed in Day Surgery regime. The percentage of perioperative bleedings recorded (0%) is inferior to any published in literature, that is comprised between 0.5% and 4% of risk of late postoperative hemorrhage. This fact is to put in relationship with the extreme easiness to suture the blood vessels under vision through the application of the Z stitches.

The 14 cases in which it was necessary a “one day” admission to hospital, were not depending from the surgical operation, but from the immediate complications (intense pain; acute retention of urine in patients residents at more than 150 km of distance from the hospital).

On the basis of our experience we believe that the postoperative pain could depend not only from the type or technique but also from particular tricks. In this case it final importance the postoperative assumption of Metronidazole, which by now we almost use routinely both for medical legal reasons and for its postoperative pain reduction effect.

We are used to precociously use antiedemigenic and cortisone drugs in patients that presents edema, bruising or...
hematomas, complications heralding pain and annoying tenesmus.
We have ascertained that in 218 cases where a feeling of endorectal puncture with tenesmus persisted, it was due to the use of prolene suture.

The endoscopic removal of stitches even at one year distance has in fact definitely resolved such problem, that stopped to occur from when we have decided to use absorbable suture stitches (Vycril).

In the two cases named as “pseudopolyps” it has been performed a polypectomy during an endoscopic check-up, considering that we thought that they were real polyps.

On the contrary, the histological examination induced us to think that they were mucous exuberances similar to polyps determined from the mucopexy stitches.

The cases of hematospermy have surely been caused by errors of technique and they make us think about how much dangerous can be the apposition of deep stitches in correspondence of the anterior rectal hemicircle, with possible serious results (rectovaginal fistulas and so on) similar as has been reported with Longo’s technique.

On the other hand we have not to underestimate the pararectal and perianal abscessual complications, ending in fistulas that needed further surgical treatment.

These complications primarily occurred in diabetic or cardiopathic patients under anticoagulant therapy and/or obese patients.

Such pathologies have determined the greatest number of recurrences.

Relatively at these last, at a first distance control, the percentage seemed extremely high.

Subsequently, taking back well in consideration the objective examination before the operation, we have been able to verify that the majority of patients (22%) that seem to have recurrences, had in reality persistence of skin tags, that once we used to leave in place, but lately we have begun to remove on express patient request, warning him of the possible onset of postoperative pain, due to the removal of cicatricial tissue extroversions.

The true recurrences (6.4%) until here observed seem to be perfectly in line with the ones reported with the technique of mucopexy.

We didn’t find explanations in cases of fecal incontinence and metoerism that spontaneously resolved in about 2-3 months time: we believe however that they could be partly pre-existing before the surgical intervention.

In conclusion, in our opinion the HPS technique has numerous advantages: it is a safe, easy to learn technique that offers a noticeable reduction of postoperative pain, applicable simply with sphincterial local anaesthesia or even with mild sedation, rapid, repeatable, low cost, lacking of major complications and with few minor complications. Excellent patient compliance with consequent rapid resumption of the working activity.

References